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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/620,498 | 07/20/2000 | YOSHIO HAGIHARA | 15162/02240 | 3562 |

24367 7590 03/20/2006

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| EXAMINER |
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AGGARWAL, YOGESH K

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| ART UNIT | PAPER NUMBER |
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2615

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------------|---|--|
| Office Action Summary | Application No. 09/620,498 | Applicant(s) HAGIHARA, YOSHIO | |
| | Examiner Yogesh K. Aggarwal | Art Unit 2615 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,6-8,10-18,20 and 23-44 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,9,19,21 and 22 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,6-8,10-18,20,23,20-39 is/are allowed.
- 6) ☒ Claim(s) 40-43 is/are rejected.
- 7) ☒ Claim(s) 44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/17/2005 has been entered.

Response to Arguments

2. Applicant's arguments, filed 11/17/2005, with respect to 1, 2, 6-8, 11, 14, 16 and 25-39 have been fully considered and are persuasive. The rejection is withdrawn. However upon further consideration and search the claims have been allowed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 40-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Shibata et al. (US Patent # 5,063,449).

[Claim 40]

A method for detecting sensitivity of a photoelectric conversion portion of a pixel within an image-sensing apparatus [Shibata et al. teaches that by injecting bias charges a residual capacitive image is sufficiently reduced (col. 2 lines 47-56) and therefore sensitivity that is defined as voltage per unit incident light is increased], the method comprising the steps of

injecting an electric charge into the photoelectric conversion portion of the pixel, discharging a portion of the thus injected electric charge for a predetermined period of time and detecting an electric charge remaining in the photoelectric conversion portion of the pixel (col. 6 lines 44-66, figures 8 and 9).

[Claim 41]

Shibata teaches wherein the step of injecting the electric charge includes changing a voltage applied to the photoelectric conversion portion of the pixel (col. 6 lines 49-54).

[Claim 42]

Shibata teaches that “the following will describe how to inject bias charges. Although the description of the injection of bias charges will be given with reference to the storage diode 11, the same method can apply to injecting bias charges in the storage diode 12” (col. 5 lines 34-38). Therefore the method of injecting charges and discharges is used for each pixel of the image sensor.

[Claim 43]

Shibata teaches that the bias signal charges are injected in the signal charge diode without requiring a light source, thus improving the residual image source characteristic (col. 7 lines 38-45).

Allowable Subject Matter

5. Claims 1, 2, 6-8, 11, 14, 16 and 25-39 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach or suggest a controller that detects a variation in sensitivity of the photoelectric conversion portion of each pixel by causing an electric charge indicative of the

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threshold voltage of the field effect transistor to accumulate on the field effect transistor and reading out the electric charge via the lead-out path.

7. Claim 44 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

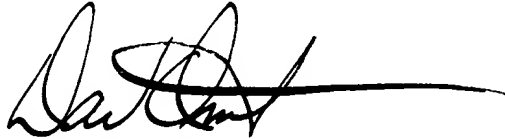
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA
March 12, 2006



DAVID OMETZ
SUPERVISORY PATENT EXAMINER